



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,366	12/01/2003	Iwao Saikatsu	032126	8101

38834 7590 02/07/2007  
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP  
1250 CONNECTICUT AVENUE, NW  
SUITE 700  
WASHINGTON, DC 20036

EXAMINER
----------

RONESI, VICKEY M

ART UNIT	PAPER NUMBER
----------	--------------

1714

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/724,366

Applicant(s)

SAIKATSU ET AL.

Examiner

Vickey Ronesi

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/13/2006 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.
3. All outstanding rejections are withdrawn in light of applicant's amendment filed on 10/13/2006.

### ***Claim Rejections - 35 USC § 103***

4. Claims 1 and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamane (US 6,451,872).

Yamane discloses non-asbestos friction materials which has reduced counter surface attack and wear (col. 1, line 65 to col. 2, line 5) comprising a fibrous base; a binder; 5-60 wt % filler such as alumina and metal powders; and 1-40 wt % (col. 6, lines 29-31) rubber composite particles composed of (col. 4, lines 56-65) 5-35 wt % unvulcanized rubber (col. 3, lines 8-16) such as NBR and SBR (col. 2, line 58 to col. 3, line 7), 1-30 wt % hard particles such as silicon carbide (col. 4, line 14) having a particle size of 0.1-10 microns (col. 4, lines 36-37), and 65-94 wt % fibrous material. Note that the rubber particles contain unvulcanized rubber and are only

Art Unit: 1714

subsequently crosslinked during the curing of the friction material (col. 6, lines 10-27), however, the filler contains unvulcanized and uncrosslinked rubber and hence falls within the scope of the instant claims.

While the amounts taught by Yamane are in weight %, amounts in vol % have been estimated by the examiner. Amounts are based on the density of silicon carbide as  $3.2 \text{ g/cm}^3$  and the density of rubber and fibrous material in the rubber composite as about  $1 \text{ g/cm}^3$ . Hence, the amounts of rubber and silicon carbide in the rubber particles are 1-8 vol % and 7-35 vol %, respectively. When used in the friction material (assuming the density is  $1 \text{ g/cm}^3$  for rubber particles and the remaining friction material composition), the amount of silicon carbide and rubber is about 0.5-4 vol % and about 3.5-17 wt %, respectively.

Given that Yamane discloses amounts in weight %, it would have been obvious to one of ordinary skill in the art to utilize the presently claimed wt % amounts of silicon carbide and rubber given that they significantly overlap as shown in the estimate above.

### ***Response to Arguments***

5. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 56-002325 discloses a friction material consisting of a fibrous base, metallic

Art Unit: 1714

powder, thermosetting resin, and unvulcanized rubber. A full English-language translation has been ordered.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickey Ronesi whose telephone number is (571) 272-2701. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

2/2/2007

Vickey Ronesi



*Vasu Jagannathan*  
VASU JAGANNATHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700